

REMARKS

This paper is being provided in response to the Office Action dated November 14, 2005 for the above-referenced application. In this response, Applicants have canceled claims 4-6, 9, 10, and 26-28.

The rejection of claims 4 and 26 under 35 U.S.C 103(a) as being anticipated by U. S. patent number 6,721,286 to Williams, et al (hereafter "Williams") has been made moot by cancellation of those claims herein. Accordingly, Applicants respectfully request that this rejection be withdrawn.

The rejection of claims 33, 55, 59, 63, 64, 68, 72, 73, 77, 81, 82, 86, 90 and 91 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,643,750 to Achiwa et al. (hereinafter "Achiwa") in view of Williams in view of U.S. Patent No. 6,625,621 to Tan, et al. (hereinafter "Tan") is hereby traversed and reconsideration thereof is respectfully requested.

Independent claim 33 recites a method of transferring data from a first storage device to a second storage device. The method includes synchronously transferring the data from the first storage device to a first buffer device, asynchronously transferring the data from the first buffer device to a second buffer device, synchronously transferring the data from the second buffer device to the second storage device, wherein the first buffer device acknowledges successful transfer of the data to the first storage device prior to the first buffer device completing transfer of the data to the second buffer device, and providing the data from the first buffer device to the second buffer device using a network, wherein the data is provided from the first storage device in

a first format and is provided to the network in a second format that is different from the first format. Claims 37 and 90 depend from claim 33.

Independent claim 55 recites a computer program product, implemented in a computer readable medium, that transfers data from a first storage device to a second storage device. The computer program product is recited as including executable code that synchronously transfers the data from the first storage device to a first buffer device, executable code that asynchronously transfers the data from the first buffer device to a second buffer device, executable code that synchronously transfers the data from the second buffer device to the second storage device, where the first buffer device acknowledges successful transfer of the data to the first storage device prior to the first buffer device completing transfer of the data to the second buffer device, and executable code that provides the data from the first buffer device to the second buffer device using a network, wherein the data is provided from the first storage device in a first format and is provided to the network in a second format that is different from the first format. Claims 59 and 91 depend from claim 55.

Independent claim 63 is directed to a method of transmitting data from a first storage device to a second storage device. The method is recited as including the second storage device receiving the data from the first storage device and the first storage device providing the data to the second storage device using a network, where the data is acknowledged to the first storage device as being successfully received at the second storage device prior to all of the data being provided to the network. Claims 64 and 68 depend from claim 63.

Independent claim 72 is directed to a device that transmits data from a first storage device to a second storage device. The device is recited as including means for the second storage device to receive the data from the first storage device and means for the first storage device to provide the data to the second storage device using a network, where the data is acknowledged to the first storage device as being successfully received at the second storage device prior to all of the data being provided to the network. Claims 73 and 77 depend from claim 72.

Independent claim 81 is directed to a computer program product, implemented in a computer readable medium, that transmits data from a first storage device to a second storage device. The computer program product is recited as including executable code that causes the second storage device to receive the data from the first storage device and executable code that causes the first storage device to provide the data to the second storage device using a network, wherein the data is acknowledged to the first storage device as being successfully received at the second storage device prior to all of the data being provided to the network. Claims 82 and 86 depend from claim 81.

Achiwa discloses, in column 3, lines 22-58, a storage apparatus system having a host computer, a main storage apparatus system and a substorage apparatus system which is electrically connected to the main storage apparatus system. An instruction is transmitted from the host computer to the main storage apparatus system in such a way as to maintain the data of the main storage apparatus system at a time point when the instruction is issued and the fixed data is copied to the substorage apparatus system. Achiwa also discloses that the storage apparatus system may also be configured in such a way that the data which is maintained in the main storage apparatus

system is transferred to the substorage system, and *after completion of the transfer of the maintained data*, a signal exhibiting the completion of the transfer of the data is transferred from the main storage apparatus system to the sub-storage apparatus system, so that with the reception of the signal exhibiting the completion of the data transfer as a turning point, the data is structured in the substorage apparatus system. Achiwa also reaches that maintaining the state of the data is provided by storing the data in a first storage area *of the main storage apparatus system* until the instruction is issued from the host computer to copy. After the instruction has been issued from the host computer, the data which was stored in the first storage area at a time point of the issue of the instruction to a second storage area *of the main storage apparatus*, and in the step of transferring the data, the data which has been copied to the second storage area can also be transferred to the sub-storage apparatus system. In addition, Achiwa also discloses that in the step of structuring the data, the maintained data which has been transferred is stored in a third storage area *of the substorage apparatus system* so that using the data which is held in the third storage area, the maintained data can also be structured in a fourth storage area *of the substorage apparatus system*.

As set forth in the Office Action, Williams teaches data being provided from the source in a first format to the network in a second format and teaches data being received by the destination in a third format wherein the second format is different from at least one of: the first format and the second format.

As set forth in the Office Action, Tan discloses a sync server that acknowledges successful transmission of queued data changes to the record before all the data is sent to the network.

Applicant respectfully submits that neither Achiwa, nor Williams, nor Tan, alone or in any combination, show, teach, or suggest the recited feature of synchronously transferring the data from the first storage device to a first buffer device, asynchronously transferring the data from the first buffer device to a second buffer device, and synchronously transferring the data from the second buffer device to the second storage device. Applicant respectfully submits that Achiwa does not disclose any buffer device interposed between the storage devices as recited in the present claims. The "substorage" of Achiwa is merely the label he uses for the second (remote) storage device (see element 1190 of FIG.1). Achiwa's first and second storage areas are part of the first storage device while the disclosed third and fourth storage areas are part of the second storage device.

Furthermore, contrary to the present claims, Achiwa specifically discloses signaling the host *after* completion of the transfer of data from the first storage device to the second storage device. Thus, even assuming for the sake of argument that, as set forth in the Office Action, Tan does disclose a server that acknowledges successful transmission of queued data changes to the record *before* all the data is sent to the network, it is still not clear whether a system that is the result of the combination of Achiwa and Tan would acknowledge successful transmission of data *before* the data is actually sent or *after* the data is actually sent. The teachings of these references are arguably opposite and it is not clear which option one of ordinary skill in the art would select, especially since neither reference discloses the recited buffer interposed between the storage devices or the recited steps of writing to and from the buffer interposed between the storage devices.

Based on the above, Applicant respectfully requests that this rejection be withdrawn.

The rejection of claims 5, 6, 9, 10, 27, and 28 under 35 U.S.C. 103(a) as being unpatentable over Williams in view of Tan and further in view of Applicant's admitted prior art (hereinafter "APA") has been made moot by cancellation of those claims herein.

The rejection of claims 34, 35, 38, 39, 56, 57, 60, 61, 65, 66, 67, 69, 70, 71, 74, 75, 76, 78, 79, 80, 83, 84, 85, 87, 88, and 89 under 35 U.S.C. 103(a) as being unpatentable over Achiwa and Williams in view of Tan and APA is hereby traversed and reconsideration thereof is respectfully requested.

All of the claims set forth in this rejection depend from one of the independent claims discussed above in connection with the rejection based on Achiwa, Williams and Tan. Applicant respectfully submits that the deficiencies of Achiwa, Williams and Tan with respect to the independent claims, discussed above, are not overcome by the addition of the APA. Accordingly, Applicant respectfully requests that this rejection be withdrawn.

Based on the above, applicant respectfully requests that the Examiner reconsider and withdraw all outstanding rejections and objections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 508-898-8603.

Respectfully submitted,
Muirhead and Saturnelli, LLC

A handwritten signature in black ink, appearing to read 'Donald W. Muirhead', written over a horizontal line.

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